

IN THE CLAIMS:

1. (Currently Amended) A photomask etch chamber, comprising:
a plasma etching chamber;
a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate that covers a substrate supporting region of the substrate support member;
a ceiling disposed on the chamber; and
an endpoint detection system disposed in the substrate support in the substrate supporting region and configured ~~to detect one or more test patterns disposed on interface with a side of~~ the photomask substrate disposed on the substrate supporting region.
2. (Cancelled)
3. (Previously Presented) The chamber of claim 1, wherein the endpoint detection system is disposed through a peripheral region of the substrate support member and positioned directly below a peripheral region of the photomask substrate.
4. (Original) The chamber of claim 1, wherein the endpoint detection system is an interferometer endpoint detection system.
5. (Currently Amended) A photomask etch chamber, comprising:
a chamber;
a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate;
a ceiling disposed on the chamber; and
an interferometer endpoint detection system ~~disposed at least partly through a portion of the ceiling through a peripheral region of the ceiling~~ positioned to interact with a surface of the photomask substrate facing the substrate support member, ~~wherein the interferometer endpoint detection system is configured to detect one or more test patterns disposed on a peripheral region of the photomask substrate.~~

6. (Currently Amended) The chamber of claim 5, wherein the interferometer endpoint detection system is disposed directly ~~above~~ below a corner region of the photomask substrate.

7. (Currently Amended) The chamber of claim 5, wherein ~~the photomask substrate is about 6 inches wide and about 6 inches long and the~~ interferometer endpoint detection system is disposed about 2.8 inches from a horizontal center line and about 2.8 inches from a vertical center line of the photomask substrate.

8. (Currently Amended) The chamber of claim 5, wherein the interferometer endpoint detection system is disposed directly ~~above~~ below a peripheral region of the photomask substrate.

9. (Original) The chamber of claim 5, wherein the interferometer endpoint detection system is configured to detect a peripheral region of the photomask substrate.

10. (Cancelled)

11. (Original) The chamber of claim 5, wherein the interferometer endpoint detection system is configured to detect one or more test patterns disposed on a corner region of the photomask substrate.

12. (Original) The chamber of claim 5, wherein the interferometer endpoint detection system comprises:

a light source for sending a light beam to a surface of the substrate; and

a light detector for measuring the intensity of the light beam reflected from the substrate surface.

13. (Original) The chamber of claim 5, wherein the interferometer endpoint detection system further comprises a focusing assembly for focusing the light beam to a spot on the substrate surface.

14. (Original) The chamber of claim 5, wherein the interferometer endpoint detection system further comprises a computer for calculating at least a portion of the waveform spectra of the reflected light beam.

15. (Original) The chamber of claim 14, wherein the computer is configured to compare the waveform spectra of the reflected light beam with a stored characteristic waveform spectra pattern.

16. (Currently Amended) A photomask etch chamber, comprising:
a chamber body suitable for plasma etching therein;
a substrate support member disposed inside the chamber body, wherein the substrate support member is configured to support a photomask substrate; and
an interferometer endpoint detection system disposed through the substrate support member and configured to detect one or more test patterns disposed on periphery region of the photomask substrate through a bottom surface of the photomask substrate.

17. (Original) The chamber of claim 16, wherein the interferometer endpoint detection system is disposed directly below a corner region of the photomask substrate.

18. (Original) The chamber of claim 16, wherein the photomask substrate is about 6 inches wide and about 6 inches long and the interferometer endpoint detection system is disposed about 2.8 inches from a horizontal center line and about 2.8 inches from a vertical center line of the photomask substrate.

19. (Previously Presented) The chamber of claim 16, wherein the interferometer endpoint detection system is disposed directly below a peripheral region of the photomask substrate.

20. (Original) The chamber of claim 16, wherein the interferometer endpoint detection system is configured to detect a peripheral bottom region of the photomask substrate.

21. (Cancelled)

22. (Original) The chamber of claim 16, wherein the interferometer endpoint detection system is configured to detect one or more test patterns disposed on a corner region of the photomask substrate.

23-27. (Cancelled)

28. (Previously Presented) The chamber of claim 16, wherein the interferometer endpoint detection system is disposed through a peripheral region of the substrate support member.

29. (New) The photomask etch chamber of claim 1, wherein the endpoint detection system is configured to emit a beam to the substrate from a location of the substrate support selected to interface with a region of the photomask substrate defined about 2.6-2.9 inches from horizontal and vertical center lines of the photomask substrate.

30. (New) The photomask etch chamber of claim 5, wherein the endpoint detection system is configured to emit a beam to the substrate from a location of the substrate support selected to interface with a region of the photomask substrate defined about 2.6-2.9 inches from horizontal and vertical center lines of the photomask substrate.

31. (New) The photomask etch chamber of claim 16, wherein the endpoint detection system is configured to emit a beam to the substrate from a location of the substrate support selected to interface with a region of the photomask substrate defined about 2.6-2.9 inches from horizontal and vertical center lines of the photomask substrate.